DOCUMENT RESUME

ED 035 228 EF 003 773

TITLE	Facilities Standards and Planning Manual for New Jersey County Community Colleges.
PUB DATE	Jan 69
NOTE	65p.
EDRS PRICE	EDRS Price MF-$0.50 HC-$3.35
DESCRIPTORS	*Campus Planning, *College Buildings, *Community Colleges, Construction Costs, Facility Expansion, *Facility Requirements, *Standards

ABSTRACT

After some general comments concerning all guidelines, planning standards are described for--(1) various types of new facilities, (2) expansion of present facilities, (3) minimum space requirements for a college, (4) net-to-gross space ratios, and (5) total project costs. Information regarding capital construction project submissions procedure is also included. (FS)

ED035228

FACILITIES STANDARDS AND PLANNING MANUAL FOR NEW JERSEY COUNTY COMMUNITY COLLEGES

JANUARY 1, 1969

EF 003 773

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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This Facilities and Standards Planning Manual was developed by the New Jersey Department of Higher Education's Division of Two-Year Colleges during the latter part of 1968. Its preparation was made possible through the full participation and cooperation of the authorities of the public community colleges. The basic work, however, was done by, Robert Heller Associates, Inc., under a contract with the New Jersey State Commission for the Higher Education Facilities Act. The Project Officer for Heller Associates was Mr. Gilman R. King, under the general supervision of Vice President Warren R. Dix.

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INTRODUCTION

The State of New Jersey and the counties in the State are engaged in a joint undertaking to provide county community colleges within reach of every resident of the State. The State will finance up to 50% of the capital costs of these colleges.

The State recognizes that what is done in developing these new colleges will provide yardsticks that may profoundly influence the course of higher education in New Jersey, and as a result wishes to encourage innovation in the planning of facilities. Along with its capital funding responsibility, the State has the obligation of assuring that available money is distributed in an equitable manner. Therefore the Department of Higher Education's Division of Two-Year Colleges has developed uniform procedures for evaluating college facilities that provide for consideration of differences in economic and social conditions and educational requirements of the 21 counties. A series of guidelines have been prepared which will be used to aid in assessing the facilities plan developed by each college.

The Department of Higher Education through the Division of Two-Year Colleges will evaluate proposed plans for new college facilities from two primary points of view:

1. The minimum amount of space that a college within the State needs to fulfill its educational responsibilities to its students. This is considered the "minimum quality" level.

2. The maximum amount of space, based on the educational needs of the college and its planned enrollment, in which the State will share the cost with the county. Space in excess of this amount will not be financed by the State since the capital funds required could be put to better use elsewhere in the educational system. This maximum amount is termed the "equity" level.

To determine the minimum quality level and the equity level of each college and provide for appropriate flexibility in planning and design, the Department will analyze space needs in each college by broad functional categories, utilizing facility planning standards in this manual.

It is recognized that situations may arise which will call for construction of space below the minimum quality level or beyond the equity level, but the Department will regard these situations as unusual and as such they will be evaluated individually.

Except under unusual circumstances the Department will, if funds are available, approve plans that fall within the parameters of minimum quality and equity set in this manual. In this manner, the planning of the colleges may proceed without unnecessary delay.

The Department recognizes that the county community colleges will and should perform a community service beyond their academic role.

The colleges should cooperate with community agencies to provide special programs, cultural and recreational as well as educational, that will go beyond the regularly scheduled academic classes. The standards in this manual, however, apply only to facilities required for formal educational programs. Requests for other facilities will be examined separately.

Fund limitations may restrict the State's full participation in educational capital projects. In this case the Department will give priority to projects in which the State's investment will result in accommodating the greatest number of additional students throughout the State.

The standards in this manual do not apply to facilities for which the Department already has authorized the college to proceed with its construction documents. It is important that programs which have been approved and are under way be continued. Colleges whose design-development drawings or preliminary plans have not been approved by the Department, and those that plan additional construction beyond what is already approved, will submit their plans to the Department.

The standards are intended to be guides and not a set of rules that each college must follow without question. They are provided as units of measure which the Department will use to distribute capital funds. It is fully expected that some institutions will need additional space or capital funds beyond amounts set forth in the standards to provide

adequately for particular curriculum programs. In these special cases the standards will serve to highlight the areas of need so that these areas may be individually evaluated without delaying the college's entire planning program.

The standards will be reviewed periodically and adjusted as necessary to provide for such factors as new methods and techniques of teaching and technological advances that may call for changes in space requirements.

A final point to be made concerns the Department's belief that each public community college should develop its campus in accordance with a Master Plan which incorporates an approved educational philosophy and specifications, on which the architectural concepts are firmly based. If a college suddenly finds it is short of space and needs additional facilities, as a result of deficiencies in planning rather than extraordinary enrollment demands, it should not anticipate additional Departmental support to make short-term corrections for these deficiencies. The procedure for submitting the Master Plan for approval, as well as subsequent construction documents, is described beginning on page 23. It should be noted that the Department receives advisory opinions on county community college capital projects from the Office of Architecture, Engineering and Construction of the Department of the Treasury.

STANDARDS

It is recognized that new facilities and new campuses must be planned differently from expansion of facilities already in use. Furthermore, costs of construction vary throughout the State and this must be considered. To assure effective evaluation of the variety of plans that will be submitted to the Department, various types of standards have been developed. This section of the manual, after some general comments, is divided into five parts, each describing a set of standards to be used by a college concerned with that particular area of planning. The five are:

Planning Standards for New Facilities
Standards for Expansion of Present Facilities
Minimum Space Requirements for a College
Net-to-Gross Space Ratios
Total Project Cost Standards

General Comments Concerning All Guidelines

1. Flexibility in planning can be achieved through the use of space planning modules which show the amounts of space required by each of various types of students. Appropriate per-student modules can thus be multiplied by the numbers of students projected for any given year to determine the total space requirements.

   Examination of colleges in New Jersey and in other states indicates that facilities should normally be planned to meet

the needs of the "full-time day student". This includes any day student, regardless of the duration of his program of study, who carries 12 or more credit hours. Part-time students are normally accommodated in the evening in space vacated by full-time day students.

The planning module is therefore designed to determine the space required based on the needs of the full-time day students. If, after operating for a period of time on its permanent campus, a college finds it needs additional facilities for the part-time student the Department will consider requests for the required additional funds.

2. In planning its facility needs, it is essential that the college make comprehensive and well-conceived enrollment projections. The college will provide to the Department a 10-year enrollment projection of full-time students by curriculum. Appendix C, Form I, gives the format that should be used to provide information to the Department. These enrollment projections will be updated each year prior to 1 October. The enrollment projections will be reviewed annually and before the approval of each construction plan by the Department.

3. Space module planning allows the college to develop its facilities in advance of future enrollments. Enrollment projections can be used to determine in which year each building can be expected to reach enrollment capacity. The period between completion of the building

and its capacity utilization, here called "enrollment lead time", will vary from building to building depending on its function. In general, instructional facilities will have short lead times of two or three years, while library and administrative buildings will have longer lead times because it is usually impractical to add this type of space in small amounts at short intervals.

4. All the county community colleges will be required to maintain an inventory of space presently in use as well as of planned space. This information is to be sent to the Department by 1 October of each year on forms provided by the Department. (See Appendix C, Form II)

   The inventory will follow the format recommended in the "Higher Education Facilities Classification and Inventory Procedures Manual", published by the Higher Education Studies Board of the United States Office of Education. The Office of Education manual was developed so that facilities data could be classified consistently and uniformly throughout the United States. Each New Jersey county community college will exchange inventory data with the Office of Education and, accordingly, it will be advantageous to use the same space classifications and terms for in-state evaluation. Therefore the Office of Education manual will be used as a reference if any questions arise in the cataloging of educational space.

Planning Standards for New Facilities

The factors for determining total space requirements or the amounts of each category of space required by one "average" student are presented as a minimum and a maximum and shown on Exhibit 1. The minimum represents the minimum quality level and the maximum the equity level described in the introduction to this manual. Thus the minimum quality and the equity levels constitute a range for each category of space within which the space planned by each college should fall.

Space requirements are shown in net assignable square feet. This is the area assigned to, or available for assignment to, an occupant. It does not include circulation space such as corridors or stairwells, mechanical equipment area, custodial areas, and portions of the building classified as construction areas, which include walls and crawl space. These areas are included in the gross square feet of building space. Ratios used to calculate gross square feet from net square feet are explained on page 19 of this manual.

The minimum quality and equity levels for each space category were developed using the selected guidelines for station sizes and space utilization listed in Appendix A. These guidelines were selected after analysis of planning standards of individual New Jersey colleges, and standards prepared in other states. This procedure provides both for flexibility and effective utilization of space in each category.

It is recognized that individual colleges may wish to plan space needs on the basis of different procedures and guidelines than those shown in Appendix A. However, the resultant amounts of space of each category of space should fall within the range between the minimum quality and equity levels shown on Exhibit 1.

Each of the 10 space categories is separate and distinct according to its function. Space saved in one category may therefore be applied to another category only with adequate justification. If it is necessary either to exceed or fall below the approved amounts of space in any category, investigation of the reasons normally will be limited to that category.

The 10 space categories are combinations and, in one category, a division of space classifications listed in the "Higher Education Facilities Classification and Inventory Procedures Manual". This manual should be used as reference for more detailed descriptions of each space category. Exhibit 2 shows the Office of Education space classifications that were combined to develop the 10 space categories used in this manual.

The following paragraphs describe each of the categories of space and show the amounts of space in net square feet required per full-time day student to achieve both the minimum quality and equity levels.

These figures become factors which, when multiplied by the forecast enrollments, indicate the range of total net square feet requirements in each space category.

Classroom Instruction (8.6 to 12.7 NSF)

The term classroom as used here means a room of any size which can accommodate more than one student and does not require special-purpose equipment for student use. Included in this category are seminar rooms, general-purpose classrooms, and lecture rooms.

Laboratory Instruction (2.6 to 6.3 NSF)

The facilities included under laboratories are rooms used by more than one student for regularly scheduled classes which require special-purpose equipment.

Not included are single-occupancy laboratories to be used by students or faculty members for study or research. Request for rooms of this kind will be individually considered by the Department.

The foregoing net square feet provide space for general-purpose laboratories. These laboratories normally are used by all students regardless of the program of study, although it is expected that the Pre-Professional Transfer programs will be the predominant users.

Many programs of study, particularly in the career areas, require additional laboratory space. To accommodate these programs, additional laboratory space must be allocated.

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The General Career programs, including such curriculums as Business Administration and Secretarial Science, will receive 6.3 to 10.9 additional NSF per student enrolled in the programs.

The Career programs with laboratory emphasis programs, such as Biological Laboratory Technology and Civil Engineering Technology, will receive 29.2 to 57.3 additional NSF of laboratory space per student enrolled in the programs.

Exhibit 3 contains a list of the curriculums by type of programs and the laboratories associated normally with these programs.

Administrative Office Space (3.5 to 4.7 NSF)

Administrative office space includes space required for persons not directly involved in maintenance, library functions, or teaching. Those with administrative titles who also teach part-time are considered as administrators. Counseling, an important function of the community college, is, for these space planning proposes, considered an administrative function.

Faculty Office Space (6.5 to 10.5 NSF)

This category includes offices, conference rooms, lounges, and reception areas used by faculty members and department heads and their clerical personnel.

Learning Resources Space (7.8 to 15.0 NSF)

This category includes areas for study on an individual basis. The stations in a study room may have equipment such as typewriters,

remote computer terminals, or audio-visual equipment. Also included in this category of space are libraries, other rooms or portions of rooms devoted to the shelving of books, and areas required to store and process audio-visual materials. A learning resources space may include audio-visual areas used to produce and distribute all instructional media as well as the areas required to service these media.

Physical Education Facilities (7.1 to 10.7 NSF)

To calculate the amount of space required, it was assumed that space is needed to provide physical education for the first-year student.

Assembly (0 to 2.0 NSF)

With the exception of a few colleges, assembly areas will serve community as well as educational functions. Plans calling for assembly areas larger than the maximum provided by the guidelines will be evaluated individually by the Division of Two-Year Colleges.

Food Service (1.6 to 6.1 NSF)

This includes all areas used for he preparation, distribution, and consumption of food. In the initial planning stages most colleges do not know the number of students that will be eating at the college or whether they prefer hot food or a snack-bar type of meal. In addition, the location of the college will influence the amount of food service space required, depending primarily on the number of alternate eating places available.

The assumption used in developing the module parameters is that space should be provided for at least 25% but not more than 75% of the student body, assuming normal turnover of students and faculty during prime eating hours.

Faculty dining areas are assumed to be available for meeting rooms when not used for eating purposes.

Lounge, Recreation, Merchandising, and Health Facilities (4.5 to 8.8 NSF)

These facilities are self-explanatory and the suggested allocation of space is shown in Appendix A.

Supporting Facilities (6.0 to 6.5 NSF)

Supporting facilities include shops, general storage areas and offices for maintenance and repair, heating plant if a general heating system is used, and similar installations. Also included in supporting facilities are parts of the data processing installation not specifically designated for instructional purposes under classroom or laboratory space.

All miscellaneous space which does not fit any of the foregoing descriptions should be taken up with the Department of Higher Education.

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The above 10 categories will be used to evaluate individual college master plans and buildings to be constructed under master plans previously approved.

These space categories apply to the construction of buildings only and do not include evaluation of the site or improvements other than buildings. The Department will evaluate the property acquisition plans of each college. No standard evaluating procedures have been developed since the price of land varies from one area to another and land requirements will differ depending on size and location of the college and availability of land. Primary consideration will be given to the size of site, accessibility by various means of transportation when capacity enrollment is reached, initial land and development cost, and location relative to other higher educational institutions.

Each college should provide parking areas to accommodate students, faculty, and staff who need to drive to the institution. The need for parking facilities will vary widely from the rural campus location to the highly congested urban campus. The Department will review the parking facilities plans of each college. In general, parking facilities at a college in a rural area should accommodate at one time automobiles for 80% or more of the total full-time day students, faculty, and staff. Suburban and urban campuses will have a smaller requirement depending on the availability of private or municipal parking facilities and access to public transportation serving the area.

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In recent years a new approach to the learning experience has been developed. This approach places greater emphasis on self-directed

study than does the conventional system. Self-directed study requires individual study areas equipped with audio-visual materials as well as conventional lecture halls and classrooms. It leads to more use of individual areas in place of classroom instruction and home study.

To accommodate this type of instruction, a college needs more individual study carrels than required under the conventional method of instruction. In addition to the actual study space, central audio-visual facilities must be enlarged to service the individual carrels.

There will be some reduction in instructional classroom space requirements as less time will be spent in conventional classrooms. Also, faculty office space needs may decrease since student/faculty ratios should be greater under the instructional system approach than under the conventional system. Some colleges involved in self-directed study may choose to extend the system to laboratory instruction. The change, however, from conventional laboratories to self-directed individual laboratory carrels should not increase total laboratory space requirements.

To judge the amount of additional study carrel space required by an institution using this new type of instruction, the Department will need to know the approximate number of full-time day students expected to participate in the program.

Standards for Expansion of Present Facilities

When a college foresees the need for additional space to accommodate future enrollments, all practical steps will be taken to assure that existing space is properly utilized before additional facilities are built. The Department will require that the plans for additional instructional facilities be based on the following utilization figures:

1. Classrooms. Each station in each classroom and seminar room should be used an average of 23 hours a week by full-time day students.
2. Lecture rooms with 60 or more stations. Each station in each lecture hall should be used an average of 15 hours a week by full-time day students.
3. Laboratory facilities. Classroom laboratory stations should be used an average of 19 hours a week by full-time day students.
4. Individual study carrels. Carrels should be in use an average of at least 30 hours a week by full-time day students or 40 hours by all students.

The above station utilization figure is the product of hours per week the average classroom is in use multiplied by the average percentage of stations occupied when classrooms are in use. This is the denominator of the formula on page 1 of Appendix A.

In planning for additional instructional facilities, an existing college should calculate the actual contact hours per week spent in classrooms

and laboratories by the average student. These actual experience figures should be inserted in the formula on page 1 of Appendix A. Contact hours per week per average student are calculated on Form IV of Appendix C.

Expansion of other college facilities will not be measured as precisely as classrooms and laboratories. However, the State will require that evidence of high utilization of all facilities be presented before it provides funds to build additions of a similar type.

Minimum Space Requirements for a College

It is inefficient to construct and operate small community colleges. As a result, the minimum size institution that will be planned in New Jersey should expect to build up its full-time day student enrollment to at least 1, 500.

A college will not be expected to build immediately to a 1, 500 full-time day enrollment. It is suggested, however, that the initial construction be designed for at least 1, 000 students. To assure that facilities when completed will adequately serve the needs of the college and community, minimum sizes of facilities are specified as a guide to college planners. The State does not require that specific facilities be built - but only that if constructed they at least equal the minimum size.

The initial facilities for 1,000 full-time day student capacity should meet the following minimums in size:

	NSF
Classroom Instruction	12,200
Laboratory Instruction	13,600
Administrative Space	5,600
Faculty Office Space	11,900
Learning Resources Space	11,000
Physical Education	24,200
Food Service	6,900
Assembly	12,000
Lounge, Recreation, Merchandising, and Health	9,500
Plant, Maintenance, and Data Processing	7,500
Total	114,400

It will be noted that the foregoing minimum space allotments call for more space per student in certain categories than is provided for in the space planning modules. The reason for this is that the modules for certain categories presume an enrollment greater than 1,000.

Where there is a conflict between space allocation based on the minimum requirement for a 1,000-student enrollment and the per-student planning module, the minimum requirement will have priority.

Because of the high per-student cost of building and operating small colleges, curriculums should normally be limited to Pre-Professional Transfer and General Career programs. The more costly laboratory emphasis curriculums should be avoided except in unusual circumstances which will be individually evaluated by the Department.

Appendix B indicates the calculations made to determine the minimum number of square feet shown on the preceding table.

Net-to-Gross Space Ratios

The State will analyze space requirements in terms of net square feet. However, construction cost is calculated on the basis of gross square feet, which includes provision for circulation areas, maintenance space, wall thickness, and other "non-assignable" space required in each building.

It is advantageous to the State and the county concerned that each building be designed to provide the maximum practical amount of net usable space within total gross space. Accordingly, each design-development plan will be analyzed to assure that no less than 65% of total gross space represents net square footage of usable space. The "Higher Education Facilities Classification and Inventory Procedures Manual" will be used as a reference to define non-assignable space to be included in gross square footage.

Achievable net-to-gross space ratios vary by type of building. The following table shows, for various types of buildings, the percentage of gross square footage that should be represented by net assignable square footage:

Fine Arts, Student Unions, Lecture Halls	55%
Laboratory and Science Buildings	60%
Classroom and Office Buildings	65%
Learning Resources Space and Physical Education	70%
Maintenance and Service Buildings	75%

Special situations may occur in which a lower net-to-gross ratio is unavoidable. In each such situation the Department will evaluate the reasons why a lower ratio has been planned for by the architect.

Total Project Cost Standards

The cost of new facilities will be evaluated on a total project cost basis, excluding only land acquisition and general site development work. Project cost includes site improvement and construction to the "five-foot line", utility connections, fixed and movable equipment, contingencies, fees, legal and administrative expenses, and interest during construction.

Analysis of building costs in the State shows that they vary by area. In developing cost guidelines, counties of the State have been divided into three cost levels, as follows:

Level 1	Level 2	Level 3
Bergen	Hunterdon	Atlantic
Essex	Mercer	Burlington
Hudson	Monmouth	Camden
Middlesex	Morris	Cape May
Union	Passaic	Cumberland
	Somerset	Gloucester
	Sussex	Ocean
	Warren	Salem

The following table indicates by type of building the project cost allowances established for each area as of January 1969. These figures are the estimated total project cost of a building completed by January 1969. Cost calculations of projects to be completed after that date will be evaluated using cost inflation estimates consistent with recent experience and current inflation forecasts used in the State.

Total Project Costs
Per Gross Square Foot
By Level
Completion Date of January 1969

	Level 1	Level 2	Level 3
Classroom	$40.00	$36.00	$32.00
Laboratory	46.00	42.00	38.00
Administration	37.00	34.00	30.00
Learning Resources	38.00	35.00	31.00
Physical Education	37.00	34.00	30.00
Lecture and Assembly	47.00	43.00	39.00
Food Service	46.00	42.00	38.00
Student Union	39.00	36.00	32.00
Supporting Facilities	24.00	22.00	20.00

The foregoing table will be updated annually to reflect any changes in construction costs.

In evaluating the cost of a particular building or master plan, emphasis will be placed on the planning aspects of construction which provide each college with flexibility in use of buildings.

The varying requirements of future curriculums as well as the technical and philosophical changes in instructional systems require that buildings be constructed so that they can be converted to fit the future needs of the college.

CAPITAL CONSTRUCTION PROJECTS SUBMISSIONS PROCEDURE

A. The Department requires prior submission of a master plan by each college, which must be approved by the Board of Higher Education. The master plan should include the following elements:

1. Educational specifications in relationship to philosophy and purpose.
2. Inventory of Space Categories by Building or Functional Center in Square Feet Per FTD Student at Target Years (Form II, Appendix C).
3. Analysis of Facilities Cost by Building or Functional Center (Form VI, Appendix C).
4. Overall site layout depicting internal and external traffic patterns.
5. Basic space layouts and relationships.
6. Building schematics or schematic drawings.

Two copies of a document incorporating points 1-3 should be submitted to the Department. An additional copy of this document, plus the material called for in points 4-6, should be presented at the time of a joint review

by the Office of Architecture, Engineering and Construction (OAEC) and the Department, of the master plan. The OAEC will normally require an additional three weeks in order to present the Department with its advisory opinion, following which the Department will make every effort to present its recommendations to the next regularly scheduled meeting of the Board of Higher Education.

B. Subsequent to approval of a master plan by the Board, or in the case of smaller projects which are additions to previous master plan submissions, approvals on the following documents need be secured solely from the Department:

1. Design development documents (referred to also as preliminary or working drawings)
2. Final drawings or documents, incorporating final cost estimates

However, in the case of smaller project authorization requests which are not related to master plans, Forms II and VI, Appendix C must be furnished to the Department. Otherwise, the procedure to be followed in both types of cases is for the college authorities, <u>not the architect</u>, to send to the Department a request for authorization, describing the project and its purposes, and in the case of final documents, indicating the final project cost estimate.

A copy of that letter, to which is attached one set of the design development or final drawings themselves, should be sent directly to the OAEC. No drawings should be sent to the Department. Formal authorizations to proceed to the next stage will come from the Department only. The colleges are advised that from the time of receipt of a set of documents by the OAEC, to the mailing of formal Departmental authorization, normally one month will be required. The OAEC will reserve the right to request site visits wherever it deems this a necessary part of its review procedure. No bid or allied contractual documents are to be sent to the OAEC or the Department; responsibility for the form and legality of these documents, including their incorporation of Departmental and OAEC recommendations and requirements, rests with the appropriate college authorities.

C. The county community colleges will be required to retain a clerk of the works (a resident or contract engineer) to conduct all on-site inspections for each capital construction project. Such a person should report directly to the county community college president, and have no affiliation with either the project architect or any of the builders.

EXHIBITS

STUDENT SPACE FACTORS
TO CALCULATE MINIMUM QUALITY AND EQUITY LEVELS
In Net Square Feet

Space Category	Minimum Quality Level	Equity Level
Classroom Instruction	8.6	12.7
Laboratory Instruction	2.6	6.3
Administrative Office	3.5	4.7
Faculty Office	6.5	10.5
Learning Resources	7.8	15.0
Physical Education	7.1	10.7
Assembly	0	2.0
Food Service	1.6	6.1
Lounge, Recreation, Merchandising, and Health	4.5	8.8
Supporting Facilities	6.0	6.5
Total	48.2	83.3
Additional Laboratory Space For:		
General Career Program	6.3	10.9
Career - Laboratory Emphasis Program	29.2	57.3

COMPARISON OF SPACE CLASSIFICATIONS TERMINOLOGY BETWEEN THE NEW JERSEY MANUAL AND OFFICE OF EDUCATION MANUAL

Facilities Standards and Planning Manual for New Jersey County Community Colleges	Higher Education Facilities Classification and Inventory Procedures Manual	
	Classification Code *	Description
Classroom Instruction	100	Classroom Facilities
Laboratory Instruction	210	Class Laboratory
	220	Special Class Laboratory
Administrative Office Space	** 300	Administrative Offices in Office Facilities
Faculty Office Space	** 300	Faculty Offices in Office Facilities
Learning Resources Space	400	Study Facilities
	530	Audio-Visual, Radio, TV Facilities
	** 300	Library Offices in Office Facilities
Physical Education Facilities	520	Athletic-Physical Education Facilities
Assembly	610	Assembly Facilities
Food Service	630	Food Facilities
Lounge, Recreation, Merchandising, and Health Facilities	640	Health Facilities
	650	Lounge Facilities
	660	Merchandising Facilities
	670	Recreation Facilities

Facilities Standards and Planning Manual for New Jersey County Community Colleges	Higher Education Facilities Classification and Inventory Procedures Manual	
	Classification Code *	Description
Supporting Facilities	700	Supporting Facilities
	** 300	Maintenance Offices in Office Facilities
Miscellaneous Space	All Other Classifications	

* The above room classifications include service areas as well as program areas.

** For the purposes of the New Jersey manual, the space category "Office Facilities" in the Higher Education Facilities Classification and Inventory Procedures Manual has been subdivided to reflect the varying construction lead times for different types of office space. Faculty offices are normally constructed with classrooms; library offices with the learning resources space; maintenance offices with supporting facilities; administrative offices separately from other facilities. To reflect the differences in lead time, faculty and administrative office space is analyzed separately and library and maintenance offices included with their respective areas.

PARTIAL LIST OF CURRICULUMS AND LABORATORIES AT COUNTY COMMUNITY COLLEGES USED TO DETERMINE PER-STUDENT LABORATORY REQUIREMENTS

Programs	Laboratories
Pre-Professional Transfer Programs	
Education	Art
Humanities	Biology
Mathematics	Chemistry
Science and Engineering	Language
Social Sciences	Music
	Physics
General Career Programs	
Accounting	Accounting
Business Administration	Data Processing
Civil Administration	Office Machines
Food Technology	Retail
Law Enforcement	Stenography
Nursing	Typing
Office Management	
Retail Business Management	
Secretarial Science	
Transportation	
Career - Laboratory Emphasis Programs	
Advertising-Design	Circuits
Architectural Technology	Dental
Biological Laboratory Technology	Drafting
Chemical Technology	Electric Power
Civil Engineering Technology	Electrical Technology
Data Processing Technology	Electronics
Drafting and Design Technology	Graphics
Electric Power Technology	Mechanical Technology
Electrical Engineering Technology	Medical Technology
Electro-Mechanical Engineering Technology	Strength of Materials
Electronics Technology	
Engineering Science	
Mechanical Engineering Technology	

APPENDIXES

DETERMINATION OF MINIMUM QUALITY AND EQUITY LEVELS OF SPACE BY CATEGORIES

Planning standards used to determine the minimum quality level and equity level of space requirements in each category are provided in this appendix.

	Minimum Quality Level	Equity Level
Classroom Instruction Space		
S - Net square feet per student station (Includes service space)	15	17
C - Hours per week average full-time day student is in scheduled class	13	17
H - Hours per week average classroom is in use	34	34
P - Percent of stations occupied when classroom is in scheduled use	67%	67%
Space required in net square feet per full-time day student is calculated by means of the following formula:		
$\text{NSF/Student} = \frac{S \times C}{H \times P}$	8.6	12.7

	Minimum Quality Level	Equity Level
Laboratory Instruction Space for Full-Time Day Student		
S - Net square feet per student station (Includes service space)	50	60
C - Hours per week average student is in scheduled laboratory	1.0	2.0
H - Hours per week average laboratory is in use	24	24
P - Percent of stations occupied when laboratory is in scheduled use	80%	80%
$\text{NSF/Student} = \frac{S \times C}{H \times P}$	2.6	6.3
Additional Laboratory Instruction Space for General Career Program Student		
S - Net square feet per student station (Includes service space)	30	35
C - Hours per week average General Career Program student is in scheduled laboratory	4	6
H - Hours per week average laboratory is in use	24	24
P - Percent of stations occupied when laboratory is in scheduled use	80%	80%
$\text{NSF/GCP Student} = \frac{S \times C}{H \times P}$	6.3	10.9

	Minimum Quality Level	Equity Level
Additional Laboratory Instruction Space for Career - Laboratory Emphasis Program Student		
S - Net square feet per student station (Includes service space)	80	100
C - Hours per week average Career - Laboratory Emphasis Program student is in scheduled laboratory	7	11
H - Hours per week average laboratory is in use	24	24
P - Percent of stations occupied when laboratory is in scheduled use	80%	80%
$\text{NSF/C-LEP Student} = \frac{S \times C}{H \times P}$	29.2	57.3
Administrative Office Space		
S - Net square feet per administrative and clerical person (Includes service space such as conference rooms)	140	140
R - Student to administrator ratio	40:1	30:1
$\text{NSF/Student} = \frac{S}{R}$	3.5	4.7

	Minimum Quality Level	Equity Level
Faculty Office Space		
S - Net square feet per faculty member (Includes service space such as conference rooms)	120	140
Rf - Student to faculty ratio	20:1	15:1
Rc - Faculty to clerical ratio	12:1	8:1
$\text{NSF/Student} = \frac{S}{Rf} + \frac{S}{Rf \times Rc}$	6.5	10.5
Learning Resources Space		
A - Audio-visual facilities Net square feet per student	1.5	2.0
V - Volumes per student	12.5	16.0
Vs - Net square feet per volume	.1	.1
P - Number of stations as a percentage of total full-time day students	15%	25%
S - Net square feet per station	25	35
L - Processing area as a percentage of volume and station area (Includes all library service areas and library offices)	25%	25%
NSF/Student = $A + (V \times Vs) + (P \times S) + [((V \times Vs) + (P \times S))\ L]$	7.8	15.0

	Minimum Quality Level	Equity Level
Physical Education Instruction		
S - Net square feet per student station	175	175
C - Hours per week average student is in scheduled physical education	1.3	1.95
H - Hours per week facility is in use	40	40
P - Percent of stations occupied when facility is in scheduled use	80%	80%
$\text{NSF/Student} = \frac{S \times C}{H \times P}$	7.1	10.7
Food Service		
S - Net square feet per station:		
Sc Cafeteria	21	21
Ss Snack Bar	20	20
Sf Faculty and staff dining	24	24
P - Percent of total full-time		
Pc Students eating in the cafeteria	-0-	25%
Ps Students eating in the snack bar	25%	50%
Pf Faculty and staff eating in the faculty dining hall (Includes all employees of the college)	25%	67%
T - Turnover during lunch time of:		
Tc Cafeteria	2	2
Ts Snack Bar	4	4
Tf Faculty and staff dining	2	2
R - Faculty and staff to student ratio	10:1	8:1
$\text{NSF/Student} = \frac{Ss \times Ps}{Ts} + \frac{Sc \times Pc}{Tc} + \frac{Sf \times Pf}{R \times Tf}$	1.6	6.1

	Minimum Quality Level	Equity Level
Lounge, Recreation, Merchandising, and Health		
S1 - Net square feet per student station in lounge (Includes service and student offices)	25	25
P - Percent of full-time day enrollment who will use the lounge in an average hour during the day	12%	15%
Sf - Net square feet per student station Recreation area (Includes service)	100	100
Pf - Percentage of full-time day students that will use the recreation area in an average hour during the day	0%	2%
M - Net square feet per student for merchandising facilities	1.0	2.0
H - Net square feet per student for health facilities	.5	1.0
NSF/Student = (S1 x P) + (Sf x Pf) + M + H	4.5	8.8
Supporting Facilities		
Data Processing	1.0	1.5
Plant and Maintenance	5.0	5.0
NSF/Student	6.0	6.5

CALCULATION OF MINIMUM SPACE

This appendix shows the calculations made to determine the minimum number of square feet required for a college with an initial planned capacity of 1,000 full-time day students.

	Number	Station Capacity	NSF	Total
Classroom Instruction (Assume average class size 24)				
General Classrooms	11	30	5,600	
General Classrooms	5	40	3,160	
Seminar Rooms	5	20	2,000	
Lecture Hall	1	120	1,440	12,200
Laboratory Instruction				
Biology	2	24	2,800	
Physics	1	24	1,500	
Chemistry	1	24	1,500	
General	1	24	1,500	
Business	6	30	6,300	13,600
Administrative Office	160 NSF x 35 Staff			5,600
Faculty Office	140 NSF x 75 Faculty		10,500	
	140 NSF x 10 Clerical		1,400	11,900
Learning Resources Space				
25,000 Volumes x .1 NSF			2,500	
200 seats x 30 NSF			6,000	
30% Processing			2,500	11,000
Physical Education				
Gym			6,800	
Pool			7,100	
Handball			2,000	
Exercise/Wrestling			2,300	
Service			6,000	24,200

		NSF	Total
Food Service			
Cafeteria/Snack Bar	265 x 12 NSF	3,200	
Faculty and Staff	75 x 12 NSF	900	
Service Area		2,800	6,900
Assembly			
1,000 seats x 12 NSF			12,000
Lounge, Recreation		6,000	
Merchandising		2,500	
Health		1,000	9,500
Plant and Maintenance			5,000
Data Processing			2,500
			114,400

APPENDIX C

FACILITIES STANDARDS AND PLANNING MANUAL FORMS

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Form I	1
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Form III	9
Form IV	12
Form V	17
Form VI	21

Form I

10-Year Enrollment Forecast - Summary by Student Type

Purpose: To develop comprehensive enrollment forecasts which will be used to analyze and plan future buildings and functional areas.

Submit: Annually, before October 1.

Instructions: Year column - the three years of actual enrollment should include enrollment in temporary quarters, if applicable. Enrollment for the "current year" in which the form is completed should be shown in the third actual year, since the actual fall semester enrollment of that year is known by October 1. This figure will follow enrollments for the two previous years. The enrollment in the forecast years projects demand and assumes that facilities needed to handle the forecast enrollment will be acquired.

The full-time day student enrollment is broken down into three program types - Pre-Professional Transfer Program, General Career Program, and Career-Lab Emphasis Program. The three student program types are defined in the text of this manual and a partial list of curriculums in each program type is shown on Exhibit 3. Any curriculum not listed in Exhibit 3 should be referred to the Department for a decision as to its program type.

The full-time equivalent (F. T. E.) of part-time students should be filled out in the same manner as the full-time day student section. The factor used to compute F. T. E. from total student enrollment should be shown on the indicated line.

FORM I

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

TEN YEAR ENROLLMENT FORECAST
SUMMARY BY TYPE OF PROGRAM *

FALL SEMESTER

INSTITUTION	DATE
LOCATION	

	YEAR	FULL TIME DAY STUDENTS				FULL TIME EQUIVALENT OF PART TIME STUDENTS Factor used to convert Part Time to FTE _____			
		PRE-PROFESSIONAL TRANSFER	GENERAL CAREER	LAB EMPHASIS	TOTAL	PRE-PROFESSIONAL TRANSFER	GENERAL CAREER	LAB EMPHASIS	TOTAL
ACTUAL									
FORECAST									

* see FACILITIES STANDARDS AND PLANNING MANUAL for definitions of Type or Program.

FORM I

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

TEN YEAR ENROLLMENT FORECAST SUMMARY BY TYPE OF PROGRAM*

FALL SEMESTER

INSTITUTION: TRENTON

LOCATION: TRENTON NEW JERSEY

DATE: SEPT 27, 68

	YEAR	FULL TIME DAY STUDENTS				FULL TIME EQUIVALENT OF PART TIME STUDENTS Factor used to convert Part Time to FTE 2.0			
		PRE-PROFESSIONAL TRANSFER	GENERAL CAREER	LAB EMPHASIS	TOTAL	PRE-PROFESSIONAL TRANSFER	GENERAL CAREER	LAB EMPHASIS	TOTAL
ACTUAL	1966	345	300		645	-	-	-	-
	1967	425	425	362	1212	253	200	-	455
	1968	534	500	400	1434	302	168	38	508
FORECAST	1969	600	500	400	1500	300	200	50	550
	1970	700	800	400	1900	300	200	50	550
	1971	1000	1000	500	2500	400	300	75	775
	1972	1100	1000	500	2600	400	300	75	775
	1973	1100	1100	500	2700	500	400	100	1000
	1974	1200	1200	500	2900	500	400	100	1000
	1975	1200	1200	600	3000	600	400	100	1100
	1976	1200	1300	600	3100	600	400	100	1100
	1977	1300	1300	700	3300	600	500	100	1200
	1978	1800	1500	700	4000	600	500	150	1250

SAMPLE

* See FACILITIES STANDARDS AND PLANNING MANUAL for definitions of Type of Program.

Form II

Inventory of Space Categories by Building or Functional Center

Purpose: To indicate the net square feet per full-time day student, by space category, which a college will have at planned capacity enrollment. The bottom line of Form II will be compared to the planning parameters shown in Exhibit 1 to verify that the net square feet in each category falls within the parameters. Form II also indicates the percent net-to-gross square feet of a building or functional area. These percentages will be compared with the standard net-to-gross percentages shown on page 19.

Submit: Annually by October 1, providing information on present facilities. The form also will be submitted when additional facilities are requested. The form will be completed for the applicable target years, showing total square feet per student that will be available after the requested space is added.

Comments - The target year is the year in which a facility is expected to accommodate capacity enrollment. The target year will not necessarily be the same year for each facility. For example, a learning resources center may be planned to accommodate full capacity five or six years after completion while a classroom building may reach its capacity two or three years after completion. Additional enrollment would be accommodated in a subsequent classroom building. It is not expected that more than three target years would be required for a college.

Instructions: Each building or functional center should be listed vertically in the lefthand column. If the form is used to request additional facilities, the new buildings should be indicated. The enrollment projected at each target year (taken from Form I) must be approved by the Department of Higher Education. In the event that a category of space has two target years, this must be noted with comments on the back of the page. For example, there may be one target enrollment year for General Career Program laboratory space and a later target enrollment year for the Career - Lab Emphasis Program laboratory space. In this case, only the projected enrollment in each program type would be used to determine the per-student (by type of program) laboratory space. To compute the over-all per-student laboratory space, the total of the various target enrollments would be divided into the total desired net square feet.

Form II summarizes figures developed on Form III for net assignable square feet in each of the 10 space categories by room or area. Each building's space category sub-total is entered on Form II. The category called "Other" should be used only if an appropriate category cannot be found. The remaining three columns are for data on total net square feet, total gross square feet, and percent net to gross. These have been explained in the text of the manual.

The total square feet in each category will be divided by the target year enrollment to determine the square feet per full-time day student at full

capacity of a category. This figure will then be entered on the bottom line and represents the square feet per full-time day student when all the facilities reach capacity enrollment. The total net square feet per student is the total of the category figures on the bottom line. The total gross square feet per student is developed by the percent net to gross figure previously calculated in the total college square feet line.

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

SUMMARY
INVENTORY OF SPACE CATEGORIES BY BUILDING OR FUNCTIONAL CENTER IN SQUARE FEET PER FULL TIME DAY STUDENT AT TARGET * YEARS

INSTITUTION | DATE

LOCATION

NAME OF BUILDING OR FUNCTIONAL CENTER	NET ASSIGNABLE SQUARE FEET														
	INSTRUCTION			OFFICE		LEARNING RESOURCES SPACE	PHYSICAL EDUCATION	ASSEMBLY	FOOD SERVICE	LOUNGE RECREATION HEALTH MERCHAN.	SUPPORTING FACILITIES	OTHER	TOTAL NET SQ. FT.	TOTAL GROSS SQ. FT.	% NET TO GROSS
	CLASS-ROOM	LAB	CARREL	ADMIN.	FACULTY										
TOTAL COLLEGE SQUARE FEET															

TARGET YEARS *	ENROLLMENT **	NET ASSIGNABLE SQUARE FEET PER STUDENT														
TOTAL SQ FT PER STUDENT **																

* Target enrollment years must be approved by Department of Higher Education.
** Full time day student.

FORM II

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

SUMMARY
INVENTORY OF SPACE CATEGORIES BY BUILDING OR FUNCTIONAL CENTER IN SQUARE FEET PER FULL TIME DAY STUDENT AT TARGET * YEARS

INSTITUTION: TRENTON
LOCATION: TRENTON NEW JERSEY
DATE: SEPT 27, 68

NAME OF BUILDING OR FUNCTIONAL CENTER	NET ASSIGNABLE SQUARE FEET															
	INSTRUCTION			OFFICE		LEARNING RESOURCES SPACE	PHYSICAL EDUCATION	ASSEMBLY	FOOD SERVICE	LOUNGE RECREATION HEALTH MERCHAN.	SUPPORTING FACILITIES	OTHER	TOTAL NET SQ. FT.	TOTAL GROSS SQ. FT.	% NET TO GROSS
	CLASS-ROOM	LAB	CARREL	ADMIN.	FACULTY											
NEWARK HALL	7036		1800	12300	4500					1136			26822	40,000	67.1
RAHWAY HALL	4075	19444			4330					1153			29002	45,000	64.4
ATLANTIC HALL	3835	18065			6400					865	4000		33165	48,000	69.1
UNION HALL	1900					27300				1000			30200	44,800	67.4
DOVER UNION								6080	15600	8600			30280	43,600	69.4
MAINT BUILD.											11600		11600	14,400	80.6
① CAMDEN HALL	5060	6680			4400					2145			18285	30,000	61.0
① POOL + GYM							31,000			985			31985	44,400	72.0
TOTAL COLLEGE SQUARE FEET	21906	44189	1800	12300	19680	27300	31.000	6080	15600	15884	15600	-0-	211339	310,200	68.1

TARGET YEARS *	ENROLL-MENT **	NET ASSIGNABLE SQUARE FEET PER STUDENT													
1970	1900	11.5		.9		10.4									
1972	2600		17.0				10.5	11.9		6.0	6.1	6.0			
1975	3000				4.1				2.0						
TOTAL SQ. FT. PER STUDENT **		11.5	17.0	.9	4.1	10.4	10.5	11.9	2.0	6.0	6.1	6.0		86.4	126.9	68.1

* Target enrollment years must be approved by Department of Higher Education.
** Full time day student.
① REQUESTED - COMPLETION SEPT 70

FORM H

Form III

Inventory of College Facilities

Purpose: To provide background data necessary to accurately complete Form II. This data should be helpful to each college as it plans future facilities.

Submit: This is a suggested form not required to be submitted to the Department. It is suggested that this form be initially completed on each building and kept up-to-date as it will aid the college and Department of Higher Education in advising on the type and number of facilities at new colleges.

Instructions: Each room or area is listed vertically in order by the classification code suggested by the Higher Education Facilities Classification and Inventory Procedures Manual. Each room should be identified by the code, room number, net square feet listed, and the number of stations, if applicable. The net square feet per station is developed by dividing the net square feet per room by the number of stations in the room.

Within each building the classification codes should be grouped together and sub-totaled. In this manner the classification code sub-totals for each building can be added together to provide information for Form II and Form IV.

Form III

Inventory of College Facilities

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Within each building the classification codes should be grouped together and sub-totaled. In this manner the classification code sub-totals for each building can be added together to provide information for Form II and Form IV.

FORM III
Page ___ of ___

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

INVENTORY OF COLLEGE FACILITIES
BY ROOM OR AREA, BY BUILDING

INSTITUTION	YEAR BUILT	TOTAL GROSS SQUARE FEET
LOCATION		
BUILDING OR FUNCTIONAL CENTER		

CLASSIFICATION CODE FOR TYPE OF ROOM*	ROOM OR AREA DESCRIPTION	ROOM OR AREA IDENTIFICATION NO.	SIZE NET SQUARE FEET	NUMBER OF STATIONS	NET SQ FT. PER STATION	COMMENTS
	Subtotal each Classification Code					

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

INVENTORY OF COLLEGE FACILITIES
BY ROOM OR AREA, BY BUILDING

INSTITUTION: TRENTON — YEAR BUILT: — TOTAL GROSS SQUARE FEET: —

LOCATION: TRENTON NEW JERSEY

BUILDING OR FUNCTIONAL CENTER: UNION HALL — YEAR BUILT: 1967 — TOTAL GROSS SQUARE FEET: 44800

CLASSIFICATION CODE FOR TYPE OF ROOM*	ROOM OR AREA DESCRIPTION	ROOM OR AREA IDENTIFICATION NO.	SIZE NET SQUARE FEET	NUMBER OF STATIONS	NET SQ.FT. PER STATION	COMMENTS
	Subtotal each Classification Code					
110	CLASSROOM	101	594	40	14.8	
110	"	103	570	40	14.2	
110	"	105	675	50	13.5	
110	SUBTOTAL		1839	130	14.1	
115	CLASSROOM SERVICE	104	61	—	—	
310	OFFICE LIBRARY	106	120			
310	" "	108	80			
310	" "	107	80	1		
310	" "	109	100	1		
310	SUBTOTAL		320			
315	OFFICE SERVICE LIB	106A	20			
350	CONFERENCE - LIBRARY	110	250	15	16.7	
350	" - FACULTY	111	365	20	18.3	
			615	35	17.6	
410	LIBRARY READING	1ST FLOOR	2000	80	25.0	
410	" "	2ND "	5000	200	25.0	
410	" "	3RD "	5000	200	25.0	
410	" CARREL	1ST "	2000	80	25.0	
410	SUBTOTAL		14000	560	25.0	
420	STACK	1ST FLOOR	2000	—	—	20,000 VOL.
420	"	2ND "	2000	—	—	20,000 "
420	SUBTOTAL		4000			

SAMPLE

*REFERENCE: HIGHER EDUCATION FACILITIES CLASSIFICATION AND INVENTORY PROCEDURES MANUAL
HIGHER EDUCATION STUDIES BRANCH, U.S. DEPT. HEALTH, EDUCATION AND WELFARE

Form IV

Utilization of Instructional Space - Summary

Purpose: To evaluate the utilization of instructional space at each college. Use of this form also develops information concerning present utilization and number of contact hours per student by type of instructional area. This information will be helpful to the Department in evaluating the construction of additional instructional facilities and new colleges.

Submit: Annually, by October 1.

Instructions:

1. The number of rooms or areas in each of the five categories of instructional space can be calculated from Form III. The number of rooms and areas in all buildings are totaled and listed by category.
2. The total net square feet is calculated from the total from Form III in the same manner as item 1, Form IV. In this case, however, the square feet of the service areas in each of the five categories should be included.
3. The total number of stations is again obtained from the total of each building's category sub-total on Form III.
4. Calculation.
5. Calculation.
6. This line must be calculated from Form V. The line A totals from each Form V are added and this figure is entered in Item 6. Only the hours from 8:30 a.m. through 6 p.m. or less will be considered day hours.

7. Calculation - Item 7 represents the "H" factor shown on Page 1 of Appendix A.

8. Derived in a similar manner as Item 6. In this case, however, the carrel space is handled the same way as the other instructional areas.

9. Calculation.

10. Calculation - This is the "P" factor in the formula shown on Page 1, Appendix A.

11. Calculation - These figures should be comparable to a calculation of line 10 multiplied by line 7. This is the standard referred to for Expansion of Present Facilities listed on page 16 of the text. Station utilization will be high only when capacity enrollment for the instructional facilities is reached.

12. Calculation - Item 12 has been included to develop the average number of contact hours that a full-time day student spends in various instructional facilities. This figure is important for the planning of future facilities. It takes into account all contact hours including those of part-time students who are enrolled during the day hours.

Horizontally, the five categories provide the primary breakdown of instructional space. Lecture, classroom, and laboratory are designated on Form III and are self-explanatory. The carrel space will be designated after consultation with the Department of Higher Education. When carrel space has been determined to be classroom replacement space (and therefore considered part of the instructional space), its utilization

rate must be determined. It is suggested that spot counts on a half-hour basis be made of the number of occupied carrels during an early week of the semester.

The "Other" category should only be used for instructional space which cannot be defined as a part of the other four instructional categories.

FORM IV

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

UTILIZATION OF INSTRUCTIONAL SPACE
SUMMARY

FULL TIME DAY STUDENT

INSTITUTION _____ FALL 19___ DATE _____

LOCATION _____

	ITEM	LECTURE	CLASSROOM	LABORATORY	CARREL*	OTHER
1.	TOTAL NUMBER OF ROOMS OR AREAS EXCLUDING SERVICE AREAS (FORM III)					
2.	TOTAL NET SQUARE FEET INCLUDING SERVICE AREAS (FORM III)					
3.	TOTAL NUMBER OF STATIONS (FORM III)					
4.	SQUARE FEET PER STATION (LINE 2 + LINE 3)					
5.	AVERAGE NUMBER OF STATIONS PER ROOM OR AREA (LINE 3 + LINE 1)					
6.	TOTAL NUMBER OF ROOM HOURS SCHEDULED PER WEEK (TOTAL OF FORM V LINE A)					
7.	AVERAGE HOURS SCHEDULED PER WEEK PER ROOM (LINE 6 ÷ LINE 1)					
8.	TOTAL NUMBER OF STATION HOURS SCHEDULED PER WEEK (TOTAL OF FORM V LINE B)					
9.	TOTAL NUMBER OF AVAILABLE STATION HOURS PER WEEK (LINE 5 X LINE 6)					
10.	PER CENT STATION HOURS SCHEDULED PER WEEK (LINE 8 ÷ LINE 9)					
11.	HOURS AVERAGE STATION SCHEDULED PER WEEK (LINE 8 ÷ LINE 3)					
12.	NUMBER OF STATION HOURS PER STUDENT (LINE 8 ÷ FTD)					

* Carrel space is occupied either on a scheduled or unscheduled basis.

FORM IV.

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

UTILIZATION OF INSTRUCTIONAL SPACE
SUMMARY

FULL TIME DAY STUDENT

INSTITUTION					FALL	DATE
TRENTON					1968	SEPT 27 68
LOCATION						
TRENTON NEW JERSEY						

	ITEM	LECTURE	CLASSROOM	LABORATORY	CARREL*	OTHER
1.	TOTAL NUMBER OF ROOMS OR AREAS EXCLUDING SERVICE AREAS (FORM III)	3	20	20	2	-
2.	TOTAL NET SQUARE FEET INCLUDING SERVICE AREAS (FORM III)	2900	13946	37509	1800	-
3.	TOTAL NUMBER OF STATIONS (FORM III)	250	800	500	60	-
4.	SQUARE FEET PER STATION (LINE 2 ÷ LINE 3)	11.6	17.4	75.0	30.0	
5.	AVERAGE NUMBER OF STATIONS PER ROOM OR AREA (LINE 3 ÷ LINE 1)	83.3	40.0	25.0	30.0	
6.	TOTAL NUMBER OF ROOM HOURS SCHEDULED PER WEEK (TOTAL OF FORM V LINE A)	84	608	308		
7.	AVERAGE HOURS SCHEDULED PER WEEK PER ROOM (LINE 6 ÷ LINE 1)	28.0	30.4	15.4		
8.	TOTAL NUMBER OF STATION HOURS SCHEDULED PER WEEK (TOTAL OF FORM V. LINE B)	2151	14629	6160	1200	
9.	TOTAL NUMBER OF AVAILABLE STATION HOURS PER WEEK (LINE 5 X LINE 6)	6997	24,320	7700		
10.	PER CENT STATION HOURS SCHEDULED PER WEEK (LINE 8 ÷ LINE 9)	30.7	60.2	80.0		-
11.	HOURS AVERAGE STATION SCHEDULED PER WEEK (LINE 8 ÷ LINE 3)	8.6	18.3	12.3	20.0	-
12.	NUMBER OF STATION HOURS PER STUDENT (LINE 8 ÷ FTD)	1.5	10.2	4.3	.8	-

SAMPLE

* Carrel space is occupied either on a scheduled or unscheduled basis.

Form V

Utilization of Instructional Space

Purpose: This form provides background information for Form IV.

Submit: This is a suggested form and need not be submitted to the Department. The form only suggests the method to be used to develop information required to complete Form IV.

Instructions: The form is to be completed for each instructional room or area. The top of Form V identifies the area or room to be checked for utilization.

The period and hours scheduled should be listed as they appear on the institution's schedule. The actual length of the period should appear in this column. If the period is longer than the normal 50 minutes, a calculation will be made at a later time to convert to the 50-minute basis.

The number of students scheduled in the room should be listed by day of the week and sub-totaled in the far righthand column, and by day and total day and evening session.

At the bottom of the form, space is provided to show the number of 50-minute periods scheduled per week. The number of periods for day students should be shown, followed by the combined total for day and evening periods. Enter on Line A.

Line B is the number of stations scheduled per week in the particular area or classroom.

Line C - Calculation.

Line D - Calculation.

FORM V
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NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

UTILIZATION OF INSTRUCTIONAL SPACE

INSTITUTION	FALL	DATE
LOCATION	19____	

1	BUILDING	6	PRINCIPAL USE:
2	ROOM OR AREA NO.		LECTURE _____
3	SQ. FT. OF AREA		GENERAL CLASSROOM _____
4	NO. OF STATIONS		LABORATORY _____
5	SQ. FT. PER STATION		CARREL _____
			OTHER (SPECIFY) _____

PERIOD	HOURS SCHEDULED	NUMBER OF STUDENTS OCCUPYING ROOM						
		MON.	TUES.	WED.	THURS.	FRI.	SAT.	WEEKLY TOTAL
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
SUBTOTAL DAY								B.
11								
12								
13								
14								
15								
TOTAL								B.

The following calculations assume a contact hour of 50 minutes.
Periods of different length must be converted to 50 minute hours.

LINE A. NUMBER OF HOURS SCHEDULED PER WEEK. DAY_____ TOTAL _____
LINE B. NUMBER OF STATIONS SCHEDULED PER WEEK. DAY_____ TOTAL _____
LINE C. PER CENT STATIONS SCHEDULED WHEN AREA IN USE. DAY _____ TOTAL_____ [B÷(ITEM 4 X A)]
LINE D. AVERAGE NUMBER OF HOURS STATION SCHEDULED PER WEEK. DAY_____ TOTAL_____ (B÷ ITEM 4)

FORM IV
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NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES
UTILIZATION OF INSTRUCTIONAL SPACE

INSTITUTION	FALL	DATE
TRENTON	1968	SEPT 25 68
LOCATION: TRENTON NEW JERSEY		

1	BUILDING	UNION HALL	6	PRINCIPAL USE:
2	ROOM OR AREA NO.	101		LECTURE ____
3	SQ. FT. OF AREA	594		GENERAL CLASSROOM ✓
4	NO. OF STATIONS	40		LABORATORY ____
5	SQ. FT. PER STATION	14.8		CARREL ____
				OTHER (SPECIFY) ____

PERIOD	HOURS SCHEDULED	NUMBER OF STUDENTS OCCUPYING ROOM						WEEKLY TOTAL
		MON.	TUES.	WED.	THURS.	FRI.	SAT.	
1	8:00 - 8:50	30		30		30		90
2	9:00 - 9:50							
3	10:00 - 10:50	35		35		35		105
4	11:00 - 11:50	43		43				86
5	12:00 - 12:50	40			40			80
6	1:00 - 1:50	27		27				54
7	2:00 - 2:50	25		25		25		75
8	3:00 - 3:50							
9	-							
10	-							
SUBTOTAL DAY		200	-0-	160	40	90		B. 490
11	7:00 - 7:50		45		45			
12	8:00 - 8:50		45		45			
13	9:00 - 9:50		45		45			
14								
15								
TOTAL		200	135	160	175	90		B. 760

SAMPLE

The following calculations assume a contact hour of 50 minutes.
Periods of different length must be converted to 50 minute hours.

LINE A. NUMBER OF HOURS SCHEDULED PER WEEK. DAY 15 TOTAL 21
LINE B. NUMBER OF STATIONS SCHEDULED PER WEEK. DAY 490 TOTAL 760
LINE C. PER CENT STATIONS SCHEDULED WHEN AREA IN USE. DAY 81.6 TOTAL 90. [B÷(ITEM 4 X A)]
LINE D. AVERAGE NUMBER OF HOURS STATION SCHEDULED PER WEEK. DAY 12.3 TOTAL 19 (B÷ ITEM 4)

Form VI

Analysis of Facilities Cost by Building or Functional Center

Purpose: To aid the Department in developing accurate cost data. This data will help in the evaluation and development of future college facilities.

Submit: This form must be submitted with preliminary plans and at the completion of a construction project.

Comments - The Division of Two-Year Colleges of the Department of Higher Education requests that it be furnished a copy of the Project Summary - Higher Education Facilities Act of 1963 (P. L. 88-204) submitted by the college to the Office of Education.

Instructions: Each building or functional center should be listed vertically. Each parcel of land as it is acquired should also be listed under Site Information.

The horizontal columns are defined in the manual. Project cost should include movable equipment. Under Site Information - Usable Acres refer to the number of acres which could be used for construction of some type.

The escalation factor should indicate the yearly inflation estimate used to calculate the cost of future construction.

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

ANALYSIS OF FACILITIES COST*
BY BUILDING OR FUNCTIONAL CENTER

INSTITUTION	ESCALATION FACTOR	DATE
LOCATION		

BUILDING OR FUNCTIONAL CENTER	DATE OF CONSTRUCTION		NET SQUARE FEET	GROSS SQUARE FEET	PER CENT NET TO GROSS SQUARE FEET	CONSTRUCTION COST		PROJECT COST**	
	MONTH AND YEAR					TOTAL (000)	PER GROSS SQUARE FEET	TOTAL (000)	PER GROSS SQUARE FEET
	BEGAN	COMPLETED							

SITE INFORMATION

PARCEL	LOCATION	TOTAL NO. OF ACRES	USABLE ACRES	DATE ACQUIRED	PURCHASE COST	SITE IMPROVEMENT COST	TOTAL COST	COST PER USABLE ACRE

* Also submit a copy of OFFICE OF EDUCATION "PROJECT SUMMARY" Higher Education Facilities Act of 1963. (P.L. 88-204)
** See FACILITIES STANDARDS AND PLANNING MANUAL for definitions of Project Cost.

FORM VI

NEW JERSEY DEPARTMENT OF HIGHER EDUCATION
DIVISION OF TWO YEAR COLLEGES

ANALYSIS OF FACILITIES COST*
BY BUILDING OR FUNCTIONAL CENTER

INSTITUTION	TRENTON	ESCALATION FACTOR	DATE
LOCATION	TRENTON NEW JERSEY	1.05/YR	SEPT 27, 68

BUILDING OR FUNCTIONAL CENTER	DATE OF CONSTRUCTION MONTH AND YEAR		NET SQUARE FEET	GROSS SQUARE FEET	PER CENT NET TO GROSS SQUARE FEET	CONSTRUCTION COST		PROJECT COST**	
	BEGAN	COMPLETED				TOTAL (000)	PER GROSS SQUARE FEET	TOTAL (000)	PER GROSS SQUARE FEET
NEWARK HALL	3/66	4/67	[illegible]	40,000	67.1 %	$ 900	$ 22.50	$ 1112	27.80
RAHWAY HALL	5/66	6/67	[illegible]	[illegible]	64.4				
ATLANTIC HALL	5/66	8/67	[illegible]	48,000	69.1	3,105	22.53	3780	27.43
UNION HALL	6/66	8/67	33200	47,800	67.4				
DOVER UNION	4/67	4/68	30280	43,600	69.4	1100	25.23	1329	30.48
MAINTENANCE	[illegible]	9/67	11600	14,400	80.6	203	14.10	232	16.11
CAMDEN HALL	2/69	8/70	18285	30,000	61.0				
POOL + GYM	4/69	7/70	31785	44,400	71.0	2269	30.50	2846	38.25

SITE INFORMATION

PARCEL	LOCATION	TOTAL NO. OF ACRES	USABLE ACRES	DATE ACQUIRED	PURCHASE COST	SITE IMPROVEMENT COST	TOTAL COST	COST PER USABLE ACRE
1	TRENTON	100	80	1/11/[illegible]	- 0 -	$ 195,000	$ 195,000	2432

* Also submit a copy of OFFICE OF EDUCATION "PROJECT SUMMARY" Higher Education Facilities Act of 1963. (P.L. 88-204)
** See FACILITIES STANDARDS AND PLANNING MANUAL for definitions of Project Cost.

FORM VI